

REMARKS

The application has been reviewed in light of the final Office Action dated November 10, 2003. Claims 1-5 are pending, with claims 1, 3 and 5 being in independent form. By this Amendment, Applicant has amended independent claims 1 and 3 to place the claims in better form for examination, without narrowing the scope of the claims. Applicant respectfully submits that no new matter and no new issues are introduced by the claim amendments.

Claims 1-5 were rejected under 35 U.S.C. §112, second paragraph, as purportedly indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

In response, the claims have been carefully reviewed and amended to clarify the claimed invention, with particular attention to the points raised in the Office Action as the basis for the rejection and without reducing the scope of the claimed invention.

It is respectfully submitted that one skilled in the art reading claim 5 in the context of this application would understand that the claim term "sector" refers to a unit of data (see, for example, application at page 19, line 8) which is consistent with the ordinary and customary meaning of the term in the art.

Accordingly, withdrawal of the rejection of claim 1-5 under 35 U.S.C. §112, second paragraph, is respectfully requested.

Claims 1-5 were rejected under 35 U.S.C. §102(e) as allegedly anticipated by U.S. Patent 6,075,920 to Kawamura et al.

Applicant has carefully considered the Examiner's comments and the cited art, and respectfully submits that independent claims 1, 3

and 5 are patentable over the cited art, for at least the following reasons.

This application relates to automatic generation of subcode data for a recording medium such as CD-ROM, CD-R, CD-DA, CD-RW, DVD, etc. Data is typically recorded on the recording medium in a predetermined format for each frame which includes header data, user data, synchronization data and subcode data. A mutual time relationship is maintained between the user data and the subcode data.

Some conventional techniques use management table information for control. However, when data is managed in a linear buffer area and management table information is used for system control, the load of the system control unit increases and it is difficult to obtain high speed processing. It has been proposed that in order to reduce a load of the system control unit and to improve memory use efficiency, the time relationship can be maintained in a page unit in place of management table information. That is, data to be encoded (before it is recorded on a recording medium) as well as data to be decoded (reproduced from a recording medium) are stored in the page region. However, since subcode data must be sequentially stored in and retrieved from the page region, high speed processing is difficult and automatic generation of time information type subcode data along with other types of subcode data is also hindered.

Applicant devised techniques for automatic generation of subcode data which overcome these obstacles, by performing generation of time information type subcode data in parallel with other types of subcode data. In addition, separate commands are provided for the automatic generation of the time information type subcode data and the automatic

generation of other types of subcode data, respectively.

An essential feature of the claimed invention is to hold commands in a memory, as shown in FIGS. 11A and 11B of the application, rather than holding substantial data in the memory. In the example shown in FIG. 11A, it can be seen that on the 0th line, repetition of 100 times (i.e. data generation for 100 sectors) is achieved. As a result, memory access is not required for generating each sector, and thus it is possible to improve effectively memory usage efficiency.

For example, independent claim 1 is directed to a subcode-data generating circuit, which generates subcode data including subcode component data which indicates time information and additional subcode component data which indicates information other than the time information. The subcode-data generating circuit includes a first generating portion, a second generating portion and a selecting portion. The first generating portion automatically generates the subcode component data which indicates the time information. The second generating portion automatically generates the additional subcode component data which indicates the information other than the time information. The selecting portion selects an output of at least one of the first and second generating portions. The first and second generating portions operate according to first and second commands, respectively, for automatic generation. Thus, while the first and second generating portions operate separate from each other, operation of the second generating portion does not affect the automatic generation by the first generating portion of the subcode component data which indicates the time information, and the logjam of subcode data generation can be alleviated.

Kawamura, as understood by Applicant, is directed to an apparatus for recording data and subcode information onto (and reproducing same from) a recording medium. The subcode information can include time code information, entry point information, picture header information, temporal reference information or copyright information, as well as a four-byte sector number. As understood, Kawamura et al. is concerned with solving a problem in identification of address position in case the bit rate changes, a problem in reproduction of video data and a problem concerning copyrights. To solve these problems, subcode is generated as additional information for the purpose of data reproduction. As understood by Applicant, the subcode generation is performed, however, using user data according to instructions given by a user.

Applicant does not find disclosure or suggestion by the cited art, however, of automatic generation of subcode component data which indicates the time information separately from automatic generation of additional subcode component data which indicates the information other than the time information, according to first and second commands, respectively, as provided by independent claim 1 as amended.

Independent claim 3 is patentably distinct from the cited art for at least similar reasons.

Regarding independent claim 5, claim 5 is directed to a subcode-data generating circuit, which generates and selects subcode data including subcode component data. The subcode-data generating circuit includes a toggle generating portion and a selecting portion. The toggle generating portion independently generates subcode component data, the state of the subcode component data alternating between a

high state and a low state at the predetermined period. The selecting portion selects one of the subcode component data of the toggle generating portion. The state of the subcode component data alternates between the high state and the low state at the predetermined period, the alternating period being based on a number of data sectors corresponding to the subcode component data prior to the alternation.

The Office Action contends that time code generating portion 9 and control unit 20 of Kawamura together can be readable as toggle generating portions, and the control unit 20 can also be read as a selecting portion.

Even assuming *arguendo* that this contention is appropriate, Applicant does not find disclosure or suggestion by Kawamura that the state of the subcode component data alternates between the high state and the low state at a predetermined period, the alternating period being based on a number of data sectors corresponding to the subcode component data prior to the alternation, as provided by amended claim 5.

Since the cited art does not disclose or suggest each and every feature of the claimed invention, the cited art does not render the claimed invention unpatentable.

Accordingly, for at least the above-stated reasons, Applicant respectfully submits that independent claim 1, 3 and 5 and the claims depending therefrom, are patentable over the cited art.

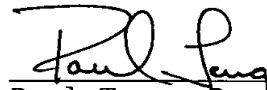
If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our Deposit Account No. 03-3125.

The Office is hereby authorized to charge any additional fees that may be required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Reconsideration and allowance of this application are respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul Teng", is written over a horizontal line.

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